**Presentation Topic - Multiple Linear Regression**

| Q1 | In multiple linear regression, which of the following best describes the purpose of the coefficient of determination (R²) value? |
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| A. | To measure the total variation of the dependent variable |
| B. | To determine the strength of the relationship between the independent and dependent variables |
| C. | To calculate the standard error of the regression coefficients |
| D. | To identify the most significant independent variable |

| Q2 | In multiple linear regression, what is the significance of a p-value less than 0.05 for a regression coefficient? |
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| A. | It indicates a weak relationship between the variable and the dependent variable |
| B. | It suggests that the variable is not important in the regression model |
| C. | It means that the variable significantly contributes to the model |
| D. | It represents a high correlation between the independent and dependent variables |

| Q3 | In multiple linear regression, which method is commonly used to avoid the problem of multicollinearity? |
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| A. | Increasing the sample size |
| B. | Using a higher-order polynomial regression |
| C. | Applying ridge or lasso regression techniques |
| D. | Removing the intercept from the model |

| Q4 | When performing multiple linear regression, why is it important to check for outliers in the data? |
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| A. | Outliers can significantly affect the coefficients of the regression model |
| B. | Outliers are necessary to validate the model assumptions |
| C. | Outliers help in improving the prediction accuracy of the model |
| D. | Outliers are useful for testing the linearity assumption |

| Q5 | Why is it important to check for independence of residuals in a multiple linear regression model? |
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| A. | To ensure that each residual is not influenced by other residuals |
| B. | To confirm the linearity of the model |
| C. | To validate the classification accuracy of the model |
| D. | To ensure that the independent variables are correlated |